

Listing of Claims:

- 1 1. (currently amended) A filter element, comprising:
 - 2 a ring of filtration media circumscribing a central axis and defining a central
 - 3 cavity, the filtration media ring having a first end and a second end;
 - 4 a first, circular end cap having an inner surface sealingly bonded to the
 - 5 first end of the media ring, the first end cap including an annular body portion
 - 6 bounding defining a central opening into the central cavity of the media, a sealing
 - 7 device bounding the central opening, a vent orifice in the annular body into the
 - 8 central cavity at a predetermined location, radially outward from the sealing
 - 9 device, and an orientation device fixed to and integral with the first end cap and
 - 10 projecting radially outward therefrom; and
 - 11 a second, circular end cap sealingly bonded to the second end of the media
 - 12 ring, a retaining device fixed to and integral with the second end cap and
 - 13 projecting outwardly therefrom.
- 1 2. (currently amended) The filter element as in claim 1, further including wherein
2 the sealing device comprises a flexible lip seal bounding the central opening of the first
3 end cap.
- 1 3. (currently amended) The filter element as in claim 2, wherein the flexible lip seal
2 is unitary with the first end cap.
- 1 4. (original) The filter element as in claim 1, wherein the retaining device is unitary
2 with the second end cap.

1 5. (original) The filter element as in claim 1, wherein the first end cap includes a
2 sleeve outwardly bounding the peripheral edge of the first end cap, and extending a short
3 distance from the first end cap toward the second end cap, the orientation device being
4 unitary with the sleeve of the first end cap and projecting radially outward therefrom.

1 6. (currently amended) The filter element as in claim 1, wherein the orientation
2 device is unitary with the first end cap.

1 7. (original) The filter element as in claim 1, wherein the retaining devices comprise
2 a plurality of individual elements, fixed to and integral with the second end cap and
3 projecting radially outward therefrom.

1 8. (original) The filter element as in claim 1, wherein the retaining device projects
2 axially outward from the second end cap.

1 9. (original) The filter element as in claim 1, wherein the retaining device projects
2 radially outward from the second end cap.

1 10. (original) The filter element as in claim 1, wherein the second end cap includes a
2 sleeve outwardly bounding the peripheral edge of the second end cap, and extending a short
3 distance from the second end cap toward the first end cap, the retaining device being
4 unitary with the sleeve of the second end cap and projecting radially outward
5 therefrom.

1 11. (currently amended) A filter assembly comprising a housing having a threaded
2 open end, a closed end, and a central axis, a first port to direct fluid into the housing and a
3 second port to direct fluid from the housing, the housing including orientation means
4 integral with an internal surface of the housing and projecting outwardly therefrom; a
5 cup-shaped cover with threads adapted to be screwed down onto the threaded open end of
6 the housing, the cover including retaining means internally of the cover; and a filter
7 element ~~removably~~ removably disposed within the housing, the filter element including
8 a ring of filtration media circumscribing a central axis and defining a central cavity, the
9 filtration media ring having a first end and a second end; a first, circular end cap at the
10 first end of the media ring, and an annular body portion bounding defining a central
11 opening for receiving a cylindrical component, and an annular seal bounding the central
12 opening of the first end cap for providing a fluid seal with the cylindrical component, a
13 vent orifice in the first end cap into the central cavity of the filter element, disposed
14 radially outward from the seal, and a cooperating orientation means integral with the first
15 end cap and projecting outwardly therefrom, the orientation means of the first end cap
16 having a configuration such that the orientation means on the first end cap cooperates
17 with the orientation means in the housing when the element is fully received therein to
18 rotationally orient the filter element with respect to the housing such that the orifice in the
19 first end cap is in a predetermined rotational position relative to the housing; and

20 a second, circular end cap at the second end of the media ring, the second end cap
21 including retaining means, the retaining means of the second end cap interengaging with
22 the retaining means of the cover to temporarily couple the end cap to the cover when the
23 cover is initially screwed down onto the housing, wherein when the cover is initially
24 screwed down onto the housing, the filter element rotates in conjunction with the cover
25 until the cover is screwed down a predetermined amount, after which the orientation
26 means of the first end cap engages the orientation means of the housing, to rotationally
27 lock the filter element with respect to the housing, the interengagement between the cover

28 and element being such that when the orientation means of the housing and first end cap
29 engage, the cover can thereafter rotate with respect to the filter element as the cover is
30 fully screwed down onto the housing.

1 12. (currently amended) A filter assembly comprising a housing having a threaded
2 open end, a closed end, and a central axis, a first port to direct fluid into the housing and a
3 second port to direct fluid from the housing, the housing including an orientation device
4 integral with an internal surface of the housing and projecting radially inward therefrom;
5 a cup-shaped cover with threads adapted to be screwed down onto the threaded open end
6 of the housing, the cover including a retaining device internally of the cover and
7 projecting radially outwardly therefrom; and a filter element ~~removeably~~ removably
8 disposed within the housing, the filter element including a ring of filtration media
9 circumscribing a central axis and defining a central cavity, the filtration media ring
10 having a first end and a second end; a first, circular end cap at the first end of the media
11 ring, having an annular body portion bounding defining a central opening for receiving a
12 cylindrical component, and an annular seal bounding the central opening of the first end
13 cap for providing a fluid seal with the cylindrical component, a vent orifice in the first
14 end cap into the central cavity of the filter element, disposed radially outward from the
15 seal, and a cooperating orientation device integral with the first end cap and projecting
16 radially outwardly therefrom, the orientation device of the first end cap having a
17 configuration such that the orientation device on the first end cap cooperates with the
18 orientation device in the housing when the element is fully received therein to
19 rotationally orient the filter element with respect to the housing such that the orifice in the
20 first end cap is in a predetermined rotational position relative to the housing; and
21 a second, circular end cap at the second end of the media ring, a retaining device
22 integral with the second end cap and projecting outwardly therefrom, the retaining device
23 of the second end cap having a configuration such that the retaining device of the second
24 end cap interengages with the retaining device on the cover to temporarily couple the end

25 cap to the cover when the cover is initially screwed down onto the housing, wherein
26 when the cover is initially screwed down onto the housing, the filter element rotates in
27 conjunction with the cover until the cover is screwed down a predetermined amount, after
28 which the orientation device on the first end cap engages the orientation device on the
29 housing, to rotationally lock the filter element with respect to the housing, the
30 interengagement between the cover and element being such that when the orientation
31 device on the housing and first end cap engage, the cover can thereafter rotate with
32 respect to the filter element as the cover is fully screwed down onto the housing.

1 13. (original) The filter assembly as in claim 12, wherein the retaining device on the
2 cover comprises a rib, ridge or tab, and the retaining device on the second end cap
3 comprises a pair of closely-spaced ribs, ridges or tabs for each retaining device on the
4 cover.

1 14. (original) The filter assembly as in claim 12, wherein the orientation device on the
2 first end cap comprises a rib, ridge or tab and the orientation device on the housing
3 comprises a rib, ridge or tab.

1 15. (new) The filter element as in claim 1, wherein the vent orifice is disposed
2 radially intermediate the sealing device and the media ring.

1 16. (new) The filter element as in claim 1, further including an annular locating
2 sleeve projecting outwardly from the annular body portion, radially outwardly spaced
3 from the sealing device.

1 17. (new) The filter element as in claim 16, wherein the locating sleeve is radially
2 outwardly disposed from the vent orifice, and includes a notch located in radial alignment
3 with the vent orifice.

1 18. (new) The filter assembly as in claim 11, further including an annular locating
2 sleeve projecting outwardly from the annular body portion, disposed radially outward
3 from the central opening, and the vent orifice is disposed radially between the seal and
4 the locating sleeve, and the housing includes a corresponding annular channel located so
5 as to receive the locating sleeve when the filter element is located in the housing, so as to
6 locate and support the element in the housing..

1 19. (new) The filter element as in claim 18, wherein the locating sleeve includes a
2 notch located in radial alignment with the vent orifice.

1 20. (new) The filter assembly as in claim 12, further including an annular locating
2 sleeve projecting outwardly from the annular body portion, disposed radially outward
3 from the central opening, and the vent orifice is disposed radially between the seal and
4 the locating sleeve, and the housing includes a corresponding annular channel located so
5 as to receive the locating sleeve when the filter element is located in the housing, so as to
6 locate and support the element in the housing..

1 21. (new) The filter element as in claim 20, wherein the locating sleeve includes a
2 notch located in radial alignment with the vent orifice.

1 22. (new) A filter element, comprising:
2 a ring of filtration media circumscribing a central axis and defining a central cavity,
3 the filtration media ring having a first end and a second end;
4 a first, circular end cap having an inner surface sealingly bonded to the first end of the
5 media ring, the first end cap including an annular body portion defining a central opening
6 into the central cavity of the media, sealing means bounding the central opening for
7 sealing against a circular collar, an annular locating sleeve radially outwardly spaced
8 from the central opening and projecting outwardly from the annular body portion, a vent

Application Serial No. 10/669,118
Response dated June 2, 2006
Reply to Office Notice of January 5, 2006

9 orifice in the annular body into the central cavity at a predetermined circumferential
10 location, radially disposed between the sealing means and locating sleeve, and orientation
11 means fixed to and integral with the first end cap and projecting radially outward
12 therefrom for rotationally orienting the filter element within a cylindrical housing; and
13 a second, circular end cap sealingly bonded to the second end of the media ring,
14 retaining means fixed to and integral with the second end cap and projecting outwardly
15 therefrom for temporarily retaining the element within a cover.